

ABSTRACT

A tire manufacturing method includes a method for optimizing the uniformity of a tire by reducing the after cure radial force variation. The after cure radial force variation vector is modeled as a vector sum of each of the vectors representing contributions arising from the tire building steps – the “tire room effect vector” and a vector representing contributions arising from the vulcanization and uniformity measurement steps – the “curing room effect vector.” In further detail, both the tire room and curing room effect vectors can be further decomposed into sub-vectors representing each radial force variation contribution for which a measurable indicator is available. For a series of tires, the method obtains such measurements as the before cure radial runout (RRO) at one or more stages of the building sequence, measurements of loading angles on the tire building equipment, and measurements made during vulcanization process.